USDA NRCS
Natural Resources Conservation Service

Conservation Management System (Forestland)

Alabama Guide Sheet No. AL 4

What is a Conservation Management System*?

A Conservation Management System on forestland is combinations of conservation and forest management practices that allows for the production of the forest products in a way that meets the landowner/user's objectives while minimizing negative impacts on the resources and the environment on and off the property. Conservation Management Systems on forestland vary depending on type of soils, forest species, and management objectives.

Resource Concerns Related to Forestland

Resource concerns in forestland include: tree suitability, tree condition, erosion and sediment during site preparation, planting and harvesting operations, and forest management.

Tree Suitability

Existing trees or seedlings to be planted should be suitable for both the soil and management objective. Poorly adapted trees will not produce at levels to meet the intended use. If existing trees are not desirable and/or cannot be managed to achieve desired objectives, landowners may have to harvest and replant with desirable species.

Tree Condition

Existing trees should be species that produce the volume and quality of wood products to meet the landowner/user's objective. Diseased, poor quality, or undesirable trees should be selectively removed to release more desirable trees for maximum growth. Overpopulation also significantly restricts the growth of the stand and weakens individual trees increasing incidence of insects.

Erosion and Sediment

Forestland is susceptable to erosion during the site preparation, establishment periods, and during harvesting. Severe erosion can result in seedling mortality and loss of long term productivity. During the growing cycle special attention should be given to reduce erosion on access roads, firebreaks, harvest trails, and landings. One of the main off-site problems associated with forestry is sediment from forest erosion.

Forest Management

Trees should be protected from wild fire. Prescribed burning and herbicides may also be needed to control plant competition. Prescribed burning also enhances wildlife habitat.

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* Conservation Management System is also referred to as a Resource Management System in the National Planning Procedures Handbook.

Forestland Conservation Management Systems

Typical forestland in Alabama are pine plantation, hardwood stands, natural pine stands, or mixed stands of pine and hardwood. Conservation Management Systems for forestland are primarily establishment and management practices to produce forest products while minimizing impacts on the environment on and off the property. Landowner/ user's objectives of maximum production at minimum costs are central considerations to these conservation management systems.

Essential Practices

The essential practice in managing forestland are the timely and selective thinning of diseased, damaged, undersirable, or overpopulated trees to open the canopy to allow for maximum growth of desired forest products and the management of pests that may impact on the general health of the stand.

Clear-cut and Replant Recommended Tree Seedlings

Retain trees adjacent and parallel to streams as streamside management zones to reduce harvesting impacts on streams, prepare site with appropriate methods, stabilize logging trails and loading ramps as needed to reduce erosion and plant seedlings. Retain 20 foot strips around edges of fields to be managed for firebreaks. If landowner/user has interest in wildlife leave openings and plant food plots.

Manage Natural Stands of Pine

Selectively remove diseased and poor quality trees to encourage maximum growth. If trees are over four inches in diameter, prescribe burn to reduce risk of fire. Construct firebreaks to facilitate prescribed burning and reduce risk of fire from surrounding forestland.

Manage Existing Stand of Mixed Hardwood and Pine

Selectively remove undesirable species and diseased trees to encourage maximum growth of pine and desired hardwood species. Construct firebreaks to reduce risk of fire from surrounding forestland. If landowner/user has interest in wildlife retain mask producing species to provide food for wildlife.

Manage Pine Plantation to Produce Timber

Selectively remove diseased pine and weed trees to encourage maximum growth of pine. If 12 or more years old, prescribe burn to reduce risk of fire. Construct firebreaks to control prescribed burning and reduce risk of fire from surrounding forestland.

Silvopasture

Planting of trees in existing pastures at rates and spacings to allow continued grazing, while simultaneously producing forest products. This multiple resource management system provides a short-term and long-term return on investment.

Potential Effects of Conservation Management Systems on Forestland

- Increases production of forest products
- mproves health and vigor of forest stand
- Protects soil from erosion
- Reduces the amount of sediment entering streams, rivers, and lakes
- Improves habitat for wildlife

References

Other Alabama Guide Sheets related to this Conservation Management System are: AL 338, 338A, 342, 394, 490, 490A, 612, 612A, 655, 666, and 666A.

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